

AVIATION

The Oldest American Aeronautical Magazine

APRIL 27, 1925

Issued Weekly

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VOLUME
XVIII

SPECIAL FEATURES

NUMBER
17

LATERAL STABILITY

THE AIR MAIL CONTRACTS

A SCHEME OF AERIAL BOMBARDMENT

THE R33 EMULATES THE SHENANDOAH

GARDNER PUBLISHING CO., Inc.

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under Act of March 3, 1879.

THE U. S. AIR SERVICE—AND GOODYEAR



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Photograph shows Goodyear blimp flying over the Canadian ship ship of the *Rover* the World's largest.

APRIL 27, 1925

AVIATION

VOL. XVIII NO. 17

Published every Monday

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VOL. XVIII

APRIL 27, 1925

No. 17

The Contract Air Mail

IF the issue we print the regulations given out by Col. Paul Henderson covering the contracts for carrying the mail authorized by the Kelly Bill. In effect, they constitute an indirect subsidy to the industry, although the actual body of rates from the mail. As the contractors are permitted to carry other loads, provided they give the same position, there should be no difficulty in building up a paper business.

The American Express Co. has gone on record as being willing to undertake the handling of aerial express matter provided some one had some experience and the other facilities to carry it. The mail and express matter ought to pay the full expense of a properly managed service other than a number of scattered operations over a route where the service was available. The efficiency and reliability of the present Air Mail Service have educated the thinking part of our business community. The demand for an extension of the Air Mail is a natural one and has been gathering momentum for several years.

The government covering the qualifications of the contractors and their responsibility are the result of the experience of the Post Office Department in operating their own services for the last seven years. In order to give them an absolute check on the qualifications of the mechanics and the pilots, the department will require that both mechanics and pilots have certificates issued by them. This in itself is an extremely important point and should have a tremendous effect on the industry as a whole. It will only be done in the absence of a federal department entrusted with that task.

The requirements of the Post Office Department will probably cover the mechanics, in many particulars. It is to be hoped that they will have the construction in mind and conform to some of the other requirements of the certificate, in particular those covering the identification of aircraft. The Underwood Laboratories had an airplane register and it adopted the international identification marks and there were several mechanics flying around with the American markings, for example N-14821.

If the department will issue certificates to pilots and mechanics on strictly need to carry mail, they will clarify the confusion with regard to safe and sound operations a great deal. A pilot and a mechanic that have certificates should have no difficulty in taking business from those unable to get a license. The mere fact of a license and an identification mark will mean to the public's confidence in such cases.

The effect on the industry of the contracting for Air Mail may be judged from the fact that the department received nearly six thousand communications on the subject before the regulations were announced. Now that the regulations have been issued, it behooves the various communities to get their politicians in position for the service. If the politicians

create the possibility of a successful service, this will be issued and the question of qualifications can then be considered.

Bringing Flying to the User

THE greatest but steady growth of the number of new students who are getting flying instruction is shown by the increase of the flying schools which are advertising in our Where to Fly page. Twenty-two schools are now running their own and their fields are scattered from coast to coast. There are probably several reasons for this increase and they all show a healthy tendency in the growth of our commercial aviation. Gradually the student or gypsy day is becoming a fixed base operator, that is, he has a permanent operating base with a hangar and repair facilities about which he centers his operations. This in turn gives him a more stable and responsible position financially and also makes it possible for him to give a course in training of whatever length is desired. The fixed base also enables him to keep his shops in better condition and the repair work which is going on, especially during the winter, is very valuable to the student. Probably the most important factor however is the fact that the war trained pilot who has not flown since the armistice is no longer fit to take on piloting on a moment's notice. The acquisition of the thousands of young men who got free training during the war is steadily disappearing and the flying school that is just as important as it is the designation of war surplus stocks to the manufacture of commercial planes. A new generation of pilots is being raised on the wings of commercial flying and not in the wings of war.

There are still large areas where no training facilities are available, in fact whole states have no flying schools. Under the new conditions which are developing there is bound to be a growing demand for training but for some time there will be little groups of people in outlying districts who wish to learn to fly but can not learn their home towns. In order to solve this problem various California contractors fly in their planes instead of making their pupils come to the base field. The instructor's permanent field must be some large city where there is a steady volume of business but if he does not go out from the base he is losing a lot of revenue. When a group of two or three students can be organized on an outlying town the instructor flies out and charges the students only for the instruction actually given. On the cruise country try the instructor often keeps one of the students from the base field for some country training and covers part of the cost in this way. This idea certainly spreads the interest in aviation and if groups of students can be organized it will prove profitable as well and is a thing to be encouraged by the manufacturer of commercial planes.

The R-33 Emulates the Shenandoah

The Reconditioned British Airship R-33 Is Blown from her Mast and Returns Safely to Her Hangar

The R-33 was put in storage shortly after the accident to the R-35 (2233) and when the Air Ministry decided to build the 55,000,000 cu. ft. R-39 and R-40, they ordered her reconditioned in order to serve as an experimental and training ship. She had made several short flights and was named in the mast at Pullman where she normally had stored the night of April 26.

A gale of 50 m.p.h. was blowing all night and the ship had been straining heavily at the mast to which it was secured. Nevertheless a crew of twenty under Lieut. F. N. Booth, first officer, was alerted for duty. At 11:30 p.m. the ship suddenly lifted at 9:50 a.m. There came a strong gust from the west and the ship broke aloft. An arm of the mast had snapped, but the wreckage hanging from the bow seemed to show the ship's nose was badly bent.

Out of Control

At first it was evident the R-33 was out of control. She was swinging head-on to the wind, rapidly gaining from side to side and being raised at a great pace through the air. It was some time before she found an even keel, first her nose pointing upward, then her tail. She had at the start of her flight plenty of height, but spectators were alarmed to see her settling down as she drifted over the flat country between Pullman and the sea.

Extreme excitement was caused at Lowestoft as she drifted over the town, ahead half an hour after the brake hose. Hundreds of people rushed into the streets and watched spell-bound the gallant struggle. Several attempts appeared to be made to swing her around toward the land. These failed and the R-33 was carried over the sea.

Four was felt that she would settle in the water and be overwhelmed by high seas. Preparations were hastily arranged to rescue the crew if necessary. R. M. G. Gordon, a pilot on the ship, and the motor launch *Amara* were sent out to the open sea.

For a time it seemed scarcely possible the ship could survive, but suddenly the spectators saw her nose sink into the air as if the crew at last had gained control. Once, twice, again her whole form seemed to quiver and there was ominous tip in her nose. She dropped a white light, the signal of distress, but in a quarter of an hour after she was first sighted at Lowestoft, the vessel was under control and disappeared flying steadily.

Radio Contact

At 11:15 o'clock she sent a reassuring message by wireless and a little later was off Yarmouth. From that time on the R-33 was in constant communication with Pullman and was held in constant contact with all meteorological information at the command of the Air Ministry.

The gale was blowing from the northwest and orders were given the ship to steer straight into it. The wind moderated, as the ship was to 35 m.p.h. but she was carried eastward 30 miles off Lowestoft.

At 2:30 she was 60 to 75 m. northeast of Lowestoft and an hour later about the same distance from the Dutch coast. At 4 o'clock she was reported over the coast near Yarmouth and was apparently trying to fight her way home.

Though by evening it was hoped an effort might be made to recover the R-33, it was decided to make her way back to her hangar at Pullman or Chichester, no effort was spared to save any emergency. The *Whitcomb* from Lowestoft had turned back after the ship got out of sight in the mist, but the *Godthaab* had the ship in her and followed her to the North Sea ready to drop boats to save the crew if need be. The Dutch authorities had been alerted and sent a fleet of small craft to watch for the R-33, and at various points such as Rotterdam, where a landing might be made, orders were

hastily organized to catch any ropes the vessel threw out.

About 7 o'clock, however, a message was received by the report that the ship had appeared for a moment over the coast. The R-33 was calling for immediate assistance. Her nose, torn badly when she broke loose, it was said, had broken under the strain, allowing her nose to be torn and she was in a state of total collapse. The ship, however, was soon detected officially. It rose through a misty haze, the size of a passing Japanese ship, the *Amara* Mast. She had regained the R-33 completely in the mist. It was said she was out of control and was in a state of total collapse and thought the ship in serious distress. She would not be seen at once and at her nose was picked up above a stern spread.



Official Photo U. S. Navy
The R-33 at her mooring mast

About an hour later at 3:30 o'clock, the ship reported she was definitely returning to Pullman. She was then in the middle of Yarmouth and would then directly toward home a note as the wind subsided. Twenty minutes later she was able to make the turn and westward: "I am attempting a return." Shortly before she crossed the Dutch coast she had reported her engine working O.K.

At 5:27 o'clock came another message concerning the ship making from the sea to her hangar and steering 30 degrees—about north-northeast. At 11:15 she was heard heading for her landing party, consisting at Rotterdam and talking to her she had no intention of landing there, and the signal was under control, making way slowly home. Great relief was felt at official quarters at the news and it was believed the vessel

danger was over, though the ship could not make Pullman before dawn.

The captain, who is standing by during the night to accompany the ship over the North Sea, received the following message from the commander of the R-33 at 11:15 p.m.: "My position 34 m. from Yarmouth. Making final landing. Please close and show searchlights." At 11:20 he asked for a forecast of the weather, stating the wind was back to west by north, 25 to 35 m.p.h. In a message sent at 11:30 p.m. the R-33 reported she was making shortening land. She was in a position to be making a north-westerly course across the North Sea toward Pullman, where, meanwhile, preparations were being made to house her on arrival.

Homeward Bound

The R-33 had reached at 3:54 o'clock at Pullman that she was in the fifth knots toward Lowestoft and at 4:30 o'clock she made the ship's lights visible at 11 m. The report received from the Air Ministry at 5 in the morning said the R-33 was 90 m. west of Amsterdam, making steady progress afterward at about eight knots. The ship was now being supported by the *Amara*.

A wireless message to the Air Ministry from the ship at 6:30 a.m. said she was 50 m. west by south of Amsterdam, and about an hour later she reported that she was turning north. The Dutch coast at a speed of between eight and ten knots. It was estimated that she was then approximately 60 m. from the Pullman Pier.

At 7:30 a.m. the ship was making but one knot against a 30 m.p.h. wind. During the night, the draughtsman commander Lieut. F. N. Booth, considered making for a few if the ship was not completely recovered. He was released at 11 a.m. that she was making twelve and one-half knots, 50 m. east of Pullman.

The R-33 passed over Lowestoft at 1:05 p.m. while en route, passed along the promenade, cheered enthusiastically. The first head doctor, who escorted the ship on her way from near Holland westward: "You have made a splendid flight."

She was seen and her nose apparently was crushed in, but the ship was making good time. A message was sent the crew of the R-33 asking about their condition.

"All right! We're as happy as clowns!" came the answer. At 2:15 p.m. she was over her hangar at Pullman being maneuvered preliminary to getting her into the place of safety.

She was safely moored to her hangar on her return from the long cruise flight shortly before 3:00 o'clock.

Engine Nosed

The commander of the R-33 did not expect her first engine, unfortunately, but used them in relation to maintain the speed needed. The fuel supply was sufficient to enable the ship to make the 50 m. to Pullman.

Captain Fokker, who made the passage on the R-33 from Chichester to Pullman, expressed the opinion that the accident to the ship was not due to faulty design of the mooring mast, but to deterioration of the metal of the mooring arm during the five years it has been in place.

The male that drove the R-33 across the North Sea was one of the largest ever constructed by the British. She is recent years and carried widespread damage. Its hull was torn in several places, and its engine, which was torn in several places, was torn in several places, and its engine, which was torn in several places, was torn in several places.

Recent destruction came from all parts of the country, was torn in several places, and its engine, which was torn in several places, was torn in several places.

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Algarsson Polar Expedition

Gottfrid Algarsson, the young British Columbia who hopes to beat Capt. Scott's record, the Norwegian expedition to the air route to the North Pole, using a small sailing ship, the *Algarsson*, left Falmouth April 12 in his little expedition vessel for Liverpool, where the ship will be finally fitted out. His plan is to start on the dash for the Pole the latter part of this month.

"Our expedition is a sporting and scientific one, and is purely a British ship, with the main idea to beat Amundsen to the Pole and plant the British flag there," said Algarsson. Algarsson's principal assistant will be Cmdr. Frank Arthur Worsley, who was for Ernest Shackleton's sailing master on the expedition to the Antarctic and the Queen in the Antarctic. It was Worsley who, when the *Endurance* got lost and his men were marooned on Elephant Island in the Antarctic, organized a small open boat only partly covered with canvas, were then 700 m. through the ice and grating ice packs in the coast of the Island of South Georgia, where he obtained help for his comrades.

Flight Lieut. Humphrey Humphries will pilot the ship in the dash for the Pole.

Another veteran polar explorer about to be W. J. Marr, has been associated early from Aberdeen University in order to accompany Algarsson as assistant biologist, representing Liverpool University. Marr, with one other youngster, was chosen from thousands of British boys known when Shackleton made his last voyage for the expedition. He was highly praised for his work as a biologist and naturalist on the Shackleton expedition.

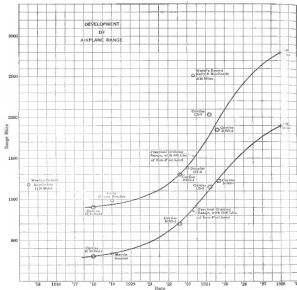
The *Algarsson* will carry a crew of eighteen men, although Algarsson and Humphries only will make the actual trip to the Pole. The present plan calls for a halt on the west coast of Spitzbergen. Then the ship will be pushed on for as possible into the ice before a line is established and the ship starts for the Pole.

Applied Aerodynamics



From P. & A.
New aerodynamic windmill designed by Major Duffell and tested at Royal Institute of Applied Engineering, Harrogate, England

A Prediction of Airplane Range



Prepared by the Census Airplane & Motor Corp.

Sparkling Voltage of Spark Plugs

NACA, Report No. 202

This report has been prepared by Francis B. Stiles in order to collect and correlate data convenient and useful from the available data on this subject. The importance of the subject lies in the fact that it forms the common meeting ground for studies of the performance of spark generators and spark plugs on the one hand and of the internal combustion engines on the other hand. While much of the data presented was obtained from various earlier publications, numerous places were found where necessary data was lacking,

and these have been provided by experiments in gasoline engines at the Bureau of Standards.

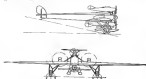
The principal variables which affect the sparking voltage are the length of the spark gap, shape of the electrodes, gas density, electrode temperature, mixture ratio and insulation. The report also contains a brief description of the test methods used in the standard plug used in testing ignition apparatus.

Report No. 202 may be obtained upon request from the National Advisory Committee for Aeronautics, Washington, D. C.

A Scheme of Aerial Bombardment

By R. F. HALL

The following discussion of the use of giant airplanes as flying carriers is of great theoretical interest. Following on its heels, the scheme of April 6, on the use of airplanes as flying carriers, is presented as an extension of the same line of thought. The former and the latter are merely to bring out the same thought and should not be taken too literally. We would be interested in seeing further material along these lines. The target plane is one by the Army Air Service is a modification of the one. The latter was illustrated on page 226 of the issue of March 25—Editor.



Suggested arrangement of carrier airplane

It would seem, in the casual observer at least, that in the present butterfly versus aircraft controversy, the potentialities of aircraft have hardly been given due importance. The science of aircraft engineering is well established, but in that part of the art of aeronautics pertaining to tactical use, the science has not yet reached a stage where it can be positively stated that even the principles of flight for the slow aircraft have been determined. If this is the case, at the present time when the science of aeronautics in its infancy, a reasonable doubt of the comparative military value of aircraft and balloons, how can there be a question which one will ultimately prove superior.

During the late war it was rumored that the Germans were developing a type of bombing aircraft which would greatly modify the existing system of aerial bombardment, and make obsolete the dogmatic aerial. The scheme, although it did not materialize, now appears to offer reasonable possibilities in future warfare. At that time, a large mother or carrier airplane was intended to carry a small detachable aircraft that could be released on flight for delivery purposes, and return for defense against hostile aircraft. It seems strange that since the war experiments have not been conducted that have shown the utility of this arrangement in a sufficiently broad and often particular advantages in the field of commercial aviation by providing means for local delivery from long distance transports.

That this type of detachable craft may be referred to as a mother weight or a sort of parent is quite likely, but as a matter of fact this is not necessarily the case. What properly designed these craft, for there would probably be more than one to a mother craft, would simply be components of the mother ship and would function as aerodynamical elements of it. The power plant of the detachable craft would be a power unit of the large craft, centrally controlled and functioning without any loss in efficiency by means of aerodynamical joints (possibly in the form of the difference in performance when attached and detached).

It does not require excessive imagination to picture a formation of such bombardment airplanes, the mother attack by hostile airplanes, the release of the defense elements and the ensuing battle. After a repulse of the enemy one may

further imagine the remaining elements returning to their mother craft. Such a maneuver is entirely within the realm of possibility. In a second equipment by the Army Air Service demonstrate that airplanes may be released from and returned to airplanes. An attack might proceed as follows: The formation is forced to high altitude and the objective is reached. Let us assume this to be a fleet of enemy warships. What happens now? Other elements carrying large bombs or perhaps the same defense elements but with bombs taken on from the mother ship during the latter part of the flight, are released. These mother bombs with nearly twice the speed of the mother airplane, being relatively invulnerable against anti-aircraft gunfire coming down upon the mother ships and from the airships during their explosive with precision and accuracy and make off, possibly to return to the mother ship or to a predetermined location where, sighting on the enemy, the release order is given that they are taken aboard friendly surface craft or submarines. The detachable aircraft could then be stored aboard or destroyed.

From the engineering angle such a scheme does present difficult problems but the obvious one far from insurmountable. The detachable bombing elements could be designed to weigh under 5000 lb. and carrying a load of 4000 lb. possess adequate strength. It is true the speed range would be limited, for example say 120 to 150 mi./hr., but when the bomb is released this would be greatly increased and the performance in on par with parent ships. The strength against the bomb would be more than adequate. Released, the flight endurance would be rather limited but while operating as a power unit of the mother craft the fuel supply would be maintained at maximum capacity for the means of detached flight. If a reconnaissance of the mother and detachable plane should not be feasible the detached craft could be released in flight from the fuel supply of the mother ship at regular intervals.

There are other advantages offered by this scheme of bombardment which do not appear on the surface. For instance the plane in the detachable plane, go into action without the fatigue or strain of a previous long flight or even when the plane is controlled by radio. The secondary or detachable units may be of the parent or reconnaissance class and employed on missions as elements of the mother craft when it itself would be the special unit without their release, thereby providing increased standardization and economy a reduction of service expense.

The accompanying sketches illustrate an arrangement of a mother airplane with detachable craft and together with this article may serve the useful purpose of treating a discussion



Illustration of carrier ship

H.M.S. Dreadnought with airplane launching gear and a pilot's airplane in it

AIRPORTS AND AIRWAYS

Corvinton, Ky.

By E. P. Mann
The new Corvinton Field opened Sunday, March 26, with about thirty people present. It was a new day and due to the blizzard up North, shops from Kentucky and Indiana did not appear.

Two of the widely advertised speeches of high places around Corvinton were in evidence but G. E. Lay and General Ketchum made up for it all. Mr. Lay in introducing General Ketchum made one of the finest talks on commercial aviation we have ever heard. He said Messers Court and Delaney what they want do and just had aviation would never be the same. It was a plea for progress. General Ketchum told what he was trying to do for Kentucky's military air service and presented that Corvinton should share. Both speeches evoked the most "Corvintonish" and got right down to facts. The Tank Corps from Georgetown entertained the crowd with two shaking stunts, also serving a big hot dinner and true to Kentucky hospitality everyone was welcome.

The field, which has just been completed, is located on the east of the forest south of the Ohio River, and is located on the north side of Baldhead Pike, near the Dixie highway, five miles south of Covington.

It includes a tract of more than 200 acres, which formerly was the Ketchum estate and has been leased for a period of years for aviation purposes from W. E. Ketchum, Jr., of Cincinnati, who had shares of the property.

Three runways have been installed, within a distance of 1,500 ft. which is the width of the field. Runways to accommodate the three large planes, which are to be kept at the field for commercial purposes, are to be built.

Boston, Mass.

By Peter Adams

The Boston papers recently announced that a land business company was interested in the purchase of an air base service in addition to its regular business. Judging from considerable experience in Boston taxation, the trip to the Airport will be considerably more thrilling than anything which could take place in the downtown.

There was a meeting of the Municipal Air Board of the City of Boston at the City Hall on Tuesday, April 14, for the purpose of discussing the question of a commercial hangar at the Boston Airport. The question was under discussion for some time and it is hoped to erect a public hangar between now and early summer.

The organization meeting of the State of Maine, (American Chapter) of the International Aeronautics Association was held on the evening of April 9 at the Augusta House. Col. Francis H. Thomas was elected president of the Chapter. Ralph D. White was elected secretary and Governor Brewster of Maine was elected an honorary member. The chapter was organized by Mr. C. H. Grant, the governor of the Association for the state of Maine gave a dinner following the business meeting to all members of the chapter present. Several speeches were made including one by Congressman Nelson of Maine. The chapter now has fifty-three members and is actively growing.

Among the guests at the dinner given by William H. Gannett at Augusta were several representatives aviation enthusiasts from Portland who reported that plans are well under way for the establishment of a chapter of the N.A.A. there. It is expected that the necessary membership cards will be forwarded to headquarters within a few days.

The first flying season of the year was under way in Boston by thirty-one flights of the Army, Navy and National Guard which had a total flying time of 77 hr. 56 min. 27 hr. 15 min. of which was done by the Army and the Army 35 hr. 22 min. The National Guard accounted for the other 14 hr. 22 min. The most extended cross country trip was made by

Lieutenant Goodfellow who made a flight with a passenger in Portsmouth, across New Hampshire over part of Vermont and returned to Boston. His flying time on this trip was 215 min. The Army and the Navy each checked out one new pilot during the past week, the Army checking out Lieut. A. E. Eaton, C.R.C., who has recently returned from France where he completed ground and flying courses at Broder and Kelly Fields, and the Navy was Lieut. J. B. Lyon of the Naval Air Corps. Much of the foregoing has been fairly rapid news that excellent columns which appears weekly in the Boston Transcript under the heading "The Week at the Boston Airport." The column is written by "Dinky" Goodfellow of the Transcript staff, and one of aviation's finest friends in America. It has already aroused much interest and favorable comment, and is rendering great service by making the ground public more familiar with the activities at their report.

San Francisco, Calif.

The Chandler Air Service, run by Walter V. Varney, reports that they are quite successful. The first regular flight was made by Frank Clarke of the San Francisco Daily News in order to attend a session of the National Chamber of Commerce. He took flight for a solo on April 19 at the morning and at 12:03 he was at Modesto. He was back in his office at 3:31 p. m. in time to write his story. His description of the flight was featured on the front page of the Daily News; it did not end April 7. The flight was in this series are New Swallows, distributed by Walter V. Varney.

Wichita, Kan.

Wichita is to have a new flying field in the near future due to the Travel Air Company's lease of an eighty acre field on the south side of town. This field is on a paved road. It is free from any obstruction and can be used by any type of ship. Three hangars are being constructed and service for visiting pilots will be available as soon as the facilities are completed. There is a thirty minute bus service to town at all times.

Detroit, Mich.

The first flight of the new Ford service was made April 25 from Detroit to Chicago, comprising a two-man crew between these centers. The plane carried 382 lb. of mail and 110 of the post office, and 110 of the post office and was piloted by Edward G. Hamilton. The plane was the Stout Air Pilotage, which easily carried the thousand pound load with a crew of two and fuel for 500 mi. The route flew over from Detroit to Dayton, Ohio, and then over the Air Mail Airport to Chicago, a total of 285 mi.

This service is a private venture of the Fords and will be used to transport passengers and mail, with the main office at Dearborn. The freight will be of regular mail used by the Ford company. It is claimed the saving in postage on a full load is \$1,200. In connection with this service is reported the Ford Co. is developing the new launch line at Dearborn Field, will be in charge of flight operations for the Ford. Since having the service Major Schroeder has been in charge of the aviation interests of the Fordster Laboratories.

As soon as more flight planes can be delivered they will be put in service and it is expected that air wings will be attached to invade the Ford plants at 94, Leam, St. Paul and Iron Mountain. The Fords already have a private radio net covering their properties in the middle west.

Air Mail Valued

Through the fire of the air mail service, a firm at Newark, N. J., manufacturers of water meters, secured the largest meter contract on record with a northeastern city. The task was to deliver 10,000 meters in a little over a year. Postmaster Frank A. Beck, of Newark by Postmaster General Nease.

The City of Portland, Ore., opened bids recently for water at the Newburg plant, which were opened March 15 and the most offer of the Newark firm did not receive specifications and proposal bids until March 13, so that there was not sufficient time to forward the necessary papers to Portland by regular mail routes. The manufacturers, however, used the air mail service and received a wire from their representatives on the next day before bids were to be opened stating the papers had been received in perfect condition. Incidentally, the air mail was responsible for the Newark bid winning the contract for 26,000 water meters from the City of Portland.

In a report made public by Second Assistant Postmaster General Paul Henderson, F. A. O'Leary, manager of the air mail station at New York, sends on this bit of interesting information.

Arriving for work on March 30, shortly before 7:30 a. m., we noticed a stranger waiting for us on the front porch of the office. Introducing himself, he proved to be a flier from Los Angeles. He left his Los Angeles by plane yesterday afternoon with an important letter which had to be in Chicago by Saturday noon. Flying to Sacramento yesterday evening, then by train to here in time to catch the morning's regular national plane, he solved the question for Los Angeles, this is an unusual occurrence but it demonstrates the public's faith and reliance in the Air Mail!

Zappella to Move

The Zappella company has requested the State Government's permission to transfer its factory, with personnel and machinery, from Friedenthal to the town of Lake Ontario, either at the Center of St. Gall or the Center of Thompson.

The company, confident of a favorable reply, already has sent agents to Friedenthal and Friedenthal to examine suitable sites. The company intends to construct commercial buildings, capable of flying safely across continents and oceans.

It appears that the Alton State refused the American and German demands not to dismantle the Friedenthal works.

Mail Pilot's News

"Always be sure you have your belt on before you take off with a Western burner."

That was the advice given by our mail pilot, Unger after two thrilling and hazardous forest landings, one from a plane and the other from a blimp, while carrying the United States mail across the Utah mountains.

The details of Unger's experience and his two miraculous escapes from either death or permanent injury to himself were made public by Postmaster General Nease.

Unger is the way Unger tells the story: "I was enroute to the Ruby Mountains at about 10,000 ft. when I broke a set of gears and landed in a very small field at Sunset Pass. A safe landing was made with difficulty owing to the wind, snow and high altitude. A weathering through the trees was made and the plane was brought to a halt here to take to the nearest town some 6 or 10 mi. away. After talking to Unger for help I started back to the stop at the house. The plane, or, at least, the engine and all its wires, were broken, and it was impossible to start the engine. I got out in the end and had my safety belt fastened.

"Well, to make a long story short, I saw—couldn't see—went down the road, open or side-slip and I don't know which—made the ground with great speed. I broke up, left the car in two places and was well shaken up by this forced landing. After taking the air with me for a few minutes, I was hit by the wind, and I was hit by the wind, and I was hit by the wind. This time I was prepared and I took off at a quick pace and returned to the ship. Help came at last and the motor was repaired and I flew the ship to Elko.

"That was the scariest moment of the best of my aviation time. I had the good luck to know a man of aviation there for a week or two, but I saw him that week and we got along fine. I had the best of the field back a stage on the road, but I had the best of the field back as well as push. This week up for the bus of my left foot.

"I took off for the city of Salt Lake with the regular mail as usual, so there was no other pilot available."



The line up of the New Swallows of the San Francisco Chamber Air Service

The Father of the Air Mail Speaks

Editor, AVIATION—

The controversy over the aviation branch of the military establishment, which has been marked by the removal of Brig. Gen. William Mitchell, from his important post as Assistant Chief of the Air Service, means more to the American people than merely the fortunes of General Mitchell, or the opinions of a Republic Air Force or a United Air Service. It means the future of the military air service, the very centers around the nucleus that the military establishment shall consider the center of military aviation upon its wings and without regard to its effect upon the fate of the bottleneck or the most defense.

There can be no quarrel with the Army and the Navy over aviation in developing their program or forcing their weapons, but the people have a just quarrel with those departments of the Government inept or fail to push to the furthest development an instrumentality of national defense because its means may affect the importance or the very existence of some element in the war organization.

The superiority of a large part of the public for General Mitchell in his bold flight is not a personal claim to have the leadership assigned or the most defense. It is a demand that a strong aviation program be developed to the end that the battlefield may become more formidable, if possible, and that the value of the most defense be enhanced by the use of the most defense of the power of the air. That is the interest which this nation has in this aviation controversy.

General Mitchell followed the searching demonstrations which General Mitchell staged on the battlegrounds of Virginia and New Jersey, on the German warships and on land targets, and who are convinced with the confidence under which some of these demonstrations were made, the importance of their own, antiaircrafting devices or themselves in the air. They know what is behind the clouds and the building of the realm of these demonstrations.

The official interest over aviation taken by a formidable element in the military establishment holds out itself here to either the Army or the Navy will develop an effective aviation program, and that is why there is such a far reaching interest in these planning the contemporary of the defense in the hands of a separate branch of the government which should have more and forth, and which should be satisfied to have the military in some other diversified branch or institution of the service.

The demand that there be, not destruction of our war machine, but representation of the effectiveness, is a reasonable one, that the people will accept as such, and that they will have formidable armaments, and they will use it that the greatest fight which General Mitchell has made has not been made in vain.

OTTO FRIEDMAN

UNITED STATES AIR FORCES

U. S. ARMY AIR SERVICE

San Antonio Maneuvers

The final phase of training for the class at the Advanced Flying School, which just graduated was a maneuver of the tactical branches conducted at Fort Field and met only by the Air Corps of Attack, Bombardment, Observation and Post and used in their tactical warfare functions, both individually and in combination with each other, but conditions were met in all the tactical branches. The maneuver was the maneuver of the First Division, including Infantry and Artillery Brigades, stationed at Fort Ben Huron. This was not only the first maneuver on a large scale held at Kelly Field, but the first branches of aviation, but it was the first one in which a serious attempt was made to cooperate with large bodies of ground troops stationed in the vicinity. The results obtained and the enthusiasm created on all sides were the most significant expressions of the United States authorities. The training program of two branches of the 2nd Division were intensively mobilized in order to cooperate with the air maneuvers of the Advanced Flying School, and the Division Commander, Brig. Gen. Preston Fowles, as well as his Staff, Brigade and Regimental Commanders, and officers of all grades, showed a greater interest in the Air Service than has ever been shown by officers of the other branches.

The general situation upon which the maneuver was based presumed a war between the Blue Army, defending San Antonio, and three Red Armies, attacking from the north and east. The situation permitted the exercise of an Army Air Service consisting of Attack and Post and Artillery Brigades, of each, and Observation Group assigned to the First Army, and a group of Bombardment attached from the General Headquarters Reserve. The First Army Observation Group also performed the function of the Air Service. The students of the four departments of the Advanced Flying School were assigned as Group and Squadron Staff Officers. An Army Air Service Operations and Intelligence Office with all its departments and personnel was organized and was obtained from aerial observations, and upon the receipt of the tactical Field Order of the Army Air Service Commander, the maneuver commenced, which lasted day and night for three days. The students made numerous observations, wrote formal field orders, and carried out the maneuvers.

In general, the maneuvers were a great success from an instructional and tactical point of view. There were some minor criticisms, such as the fact that the Air Service, while leading a Bomb Attack formation against enemy tanks, again supervising a battery in action, came upon a suddenly rising slope and the bombs which were released at about 200 feet were not the ground level, but the slope of the hills. One result was 12 holes through the ships of the flight fragments passing very close to the crew, one fragment on a battery fragment partially backed off, and a wild scramble got out of the line. The maneuver was a success and much was learned. The students in Kelly Field also made a night run on Austin, 50 mi. from Kelly Field, and returned safely.

The new No. 134 radio set, installed in a Martin Bessner, kept in constant voice communication with Kelly Field, as far as Austin and back, a distance of 80 mi. It received telephone messages up to about 17 mi. The Division Staff was particularly interested in the radio and the possibility that it offers in the tactical employment of ground troops.

Another very interesting feature was the use of parachute bombs for night reconnaissance. Three of these bombs were dropped from an altitude of 2000 ft. over a Infantry Brigade

deployed. Although the ground troops were able to count themselves from aerial observation during the burning of the first bomb, it was impossible for any considerable bodies of them to move without being seen.

Bomber Loss Aileron Control

By Tom Swift, Jr. In the early afternoon of March 2 to Selfridge field with the last of the men and supplies from Canada maneuvers at the First Pursuit Group, Capt. Henry Parnell, A.S., of W.D. Wright Field, piloting a Martin Bomber, carrying four passengers and about 1400 lb. of freight, was forced over near Escanaba, Mich. due to the failure of the aileron cables.

Earlier that morning Captain Parnell had taken all four of the bombers from the base of the Selfridge field and had made the trip to Canada without mishap. It was 30 mi. Landing at Escanaba, the ship was immediately loaded with freight. One of the aileron cables was good and the four cables were replaced. Captain Parnell, flying the 50th Avenue Squadron, acting as mechanic. The take-off was made into a 30 to 40 mi. wind still blowing from the north and westward.

"Repulsion of the load," said Captain Parnell in referring to the trip, "I experienced no difficulty in getting off. The air was so rough and gusty that I at once decided to take no chance in crossing between the two points. The distance was 50 mi. when, due to the very weak air, a forced landing would probably result in the pursuit of several Adjutant Comptroller James Cline and a group on an already good bomber and some 2500 lb. of freight. Captain Parnell, flying the 50th Avenue Squadron, acting as mechanic. The take-off was made into a 30 to 40 mi. wind still blowing from the north and westward.

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Fairfield Depot

The Repair Shops at the Fairfield Air Intermediate Depot, under the direction of Capt. Edward Langston, completed the following work during the month of January: Airplane 3 104101, 3 104102, 3 104103, 3 104104, 3 104105, 3 104106, 3 104107, 3 104108, 3 104109, 3 104110, 3 104111, 3 104112, 3 104113, 3 104114, 3 104115, 3 104116, 3 104117, 3 104118, 3 104119, 3 104120, 3 104121, 3 104122, 3 104123, 3 104124, 3 104125, 3 104126, 3 104127, 3 104128, 3 104129, 3 104130, 3 104131, 3 104132, 3 104133, 3 104134, 3 104135, 3 104136, 3 104137, 3 104138, 3 104139, 3 104140, 3 104141, 3 104142, 3 104143, 3 104144, 3 104145, 3 104146, 3 104147, 3 104148, 3 104149, 3 104150, 3 104151, 3 104152, 3 104153, 3 104154, 3 104155, 3 104156, 3 104157, 3 104158, 3 104159, 3 104160, 3 104161, 3 104162, 3 104163, 3 104164, 3 104165, 3 104166, 3 104167, 3 104168, 3 104169, 3 104170, 3 104171, 3 104172, 3 104173, 3 104174, 3 104175, 3 104176, 3 104177, 3 104178, 3 104179, 3 104180, 3 104181, 3 104182, 3 104183, 3 104184, 3 104185, 3 104186, 3 104187, 3 104188, 3 104189, 3 104190, 3 104191, 3 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THREE IMPORTANT ITEMS



SMALL COMPASS



RAK GOGGLES



GAS STRAINER

No 911 NEW STOCK N A K

Clear or amber - \$4.50 per pair
Half green half clear - \$4.85 per pair

No 2647 NAVY SPECIFY
1" High, 3" Wide, 4 3/4" Deep.
Wt 1-1/2 lbs. New and
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